

NOT FOR PUBLICATION

**UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY**

TRANSWEB, LLC,

Plaintiff,

V.

3M INNOVATIVE PROPERTIES COMPANY and:
3M COMPANY, :

Defendants.

: Hon. Faith S. Hochberg, U.S.D.J.
:
: Civil Case No. 10-4413 (FSH) (PS)

OPINION

Date: July 13, 2012

HOCHBERG, District Judge:

This matter comes before the Court upon Defendants’ Motions to Exclude the Expert Testimony of Plaintiff’s Experts Dr. Edward Funk and Dr. Bradley N. Reiff. Defendants 3M Innovative Properties Company and 3M Company (“Defendants” or “3M”) contend that Dr. Funk, TransWeb’s invalidity expert, improperly relied on a recreation of the prior art that was created based on uncorroborated evidence and under conditions Dr. Funk knew nothing about. 3M contends that Dr. Reiff’s opinions on antitrust should be excluded because they are not based on econometric analysis. The Court has reviewed the submissions of the parties and heard oral argument at a hearing on May 23, 2012.

I. BACKGROUND

This case concerns specialty filtration media—specifically, plasma-fluorinated non-woven polymeric web—used in respirators for environments containing oily aerosols. 3M alleges TransWeb infringes two of its patents relating to this filtration material: U.S. Patent No.

6,397,458 (the “458 patent”), which claims a method for making the filtration material, and U.S. Patent No. 6,808,551 (the “551 patent”), which is directed to methods of using the filtration material. 3M first brought suit against TransWeb for infringement in the District of Minnesota in May 2010. That court lacked personal jurisdiction over TransWeb. On August 27, 2010, TransWeb filed this suit seeking declaratory judgment of invalidity, inequitable conduct, and non-infringement as well as antitrust claims. 3M counterclaimed for infringement. Two of TransWeb’s declaratory judgment claims are relevant to the present motions. First, it contends that 3M’s patents are invalid because TransWeb created and sold its filtration material before 3M, and that material anticipates and/or renders obvious the claims asserted by 3M. Second, TransWeb contends 3M’s patent issued only after 3M made intentionally misleading statements to the U.S. Patent and Trademark Office as to whether TransWeb’s invention had been publicly available, and that 3M’s receipt and enforcement of the patent constitute antitrust violations.

On February 24, 2012, 3M filed motions to exclude the testimony of Drs. Funk and Reiff.

II. STANDARD OF ADMISSIBILITY FOR EXPERT TESTIMONY

Federal Rule of Evidence 702, which governs the admission of expert testimony in federal court, provides that:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if: (a) the expert’s scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case.

“Rule 702 embodies three distinct substantive restrictions on the admission of expert testimony: qualifications, reliability, and fit.” *Elcock v. Kmart Corp.*, 233 F.3d 734, 741 (3d Cir. 2000).

The requirement that an expert be qualified is liberally construed by the Third Circuit, which has “eschewed imposing overly rigorous requirements of expertise.” *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 741 (3d Cir. 1994). A broad range of knowledge, skills, and training qualify a witness as an expert. *Id.* 3M does not challenge either expert’s qualifications.

To be reliable, an expert’s opinion must be “based on the ‘methods and procedures of science’ rather than on ‘subjective belief or unsupported speculation’; the expert must have ‘good grounds’ for his or her belief.” *Id.* at 742 (quoting *Daubert*, 509 U.S. at 589). Thus, “[c]ourts need not admit bare conclusions or mere assumptions proffered under the guise of ‘expert opinions.’” *Feit v. Great-West Life & Ann. Ins. Co.*, 460 F. Supp. 2d 632, 637 (D.N.J. 2006).

In order to “fit,” the expert’s testimony must in fact assist the fact-finder, by providing it with relevant information necessary to a reasoned decision of the case. *Paoli*, 35 F.3d at 743; *Calhoun v. Yamaha Motor Corp.*, 350 F.3d 316, 321 (3d Cir.2003). An expert who renders an opinion based on factual assumptions not present in the case “cannot be said to ‘assist the trier of fact,’ as Rule 702 requires.” *Elcock*, 233 F.3d at 756 n.13. Consequently, “[t]his type of an opinion misleads the fact-finder and arguably does not comply with the ‘fit’ requirement.” *Id.*

While the party seeking to present expert testimony must establish by a preponderance of the evidence that an expert is qualified and that his or her testimony is reliable, *Paoli*, 35 F.3d at 744, rejection of expert testimony is the exception and not the rule, *see Daubert*, 509 U.S. at 596 (“Vigorous cross-examination, presentation of contrary evidence and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.”).

III. DISCUSSION

A. Dr. Edward Funk

Dr. Funk is TransWeb's invalidity expert. In his expert report and deposition, he opines that TransWeb's prior art products anticipate or render obvious all 50 of the asserted claims in the two 3M patents in suit, the '458 and '551 patents. Because 15 years have elapsed since TransWeb first created its products, TransWeb no longer has samples of the exact products that formed the basis of its patent application and that it allegedly had provided to 3M at a trade show in Minneapolis in 1997, and it has modified how it produces that line of products in the intervening years. (*See* Opp. Br. at 9, 14-17.) TransWeb therefore recreated the prior art (the "Prior Art recreations"). (Opp. Br. at 15.) 3M moves to exclude Dr. Funk's opinion, which relies on the Prior Art recreations, on the grounds that the recreations are unreliable and that Dr. Funk was not even fully aware of the circumstances surrounding the recreation of the prior art samples. In particular, 3M challenges the reliability and fit of Dr. Funk's opinion.¹

1. Background

There are three main steps to creating the filtration material: first, the meltblown web material is created by extruding polypropylene through a die; second, the web is treated with a plasma containing fluorine gas to impart fluorine to the surface of the web; third, the web is charged with a DC corona charger to add an electrostatic charge. (Opp. Br. at 3-4.) Only the second step—the fluorination process—is at issue here, because the other steps in manufacturing the Prior Art recreations were completed as they would have been in 1997, when the purported

¹ 3M does not challenge Dr. Funk's qualifications. Dr. Funk received a B.S. degree in engineering from Yale University in 1967 and a Ph.D. in chemical engineering from the University of California, Berkeley in 1970. From 1982-1992 he worked at Allied-Signal/UOP, managing chemical process programs including those involving plasma fluorination. Since 1992, he has been a technical consultant in the chemistry and chemical engineering fields. (Funk Decl. ¶¶ 3-5.)

prior art was produced. In 1997, TransWeb contracted out its fluorination process to a California-based company, 4th State. (Opp. Br. at 7; Gannon Cert. Exs. 6, 7.) At that time, TransWeb worked closely with 4th State to refine the fluorination parameters so that the ideal amount of fluorine was deposited on the web.² (Opp. Br. at 10; Gannon Cert. Ex. 7.) However, TransWeb did not retain contemporaneous records detailing the exact parameters, and did not contact or depose 4th State when producing the Prior Art recreations, which was done in-house on TransWeb equipment.³ (Moving Br. at 9 (citing Miller Decl. Ex. A. at 22:6-23:9).) 3M contends that because the 1997 fluorination conditions were not documented anywhere, the recreations are really based only on the uncorroborated recollections of Kumar Ogale, TransWeb's President and co-founder, who directed the recreation.

It is undisputed that the fluorination conditions “directly affect[] the properties of the web being fluorinated,” and, particularly, the amount of fluorine deposited onto the web. (Moving Br. at 10.) Because 3M's patents claim only a fluorinated web with a surface containing “at least about 45 atomic percent fluorine”⁴ (‘458 Patent, Miller Decl. Ex. F at Col. 2, lines 7-11), the amount of fluorine deposited on the web directly bears on TransWeb's claim that 3M's patents are invalid. Relying on Dr. Funk's testimony, 3M argues that the key variables in fluorination are: 1) the choice of gas and flow rate in the fluorination chamber; 2) the amount of power used

² Fluorine keeps the electrostatic charge of the material stable. The charge allows the web to attract contaminant particles, so that the porous openings for air can be wider, allowing for easier breathability. (*See generally* Opp. Br. at 2-5.)

³ Although both were manufactured by Europlasma, the plasma treater that TransWeb now uses for its in-house fluorination, which it used for the recreations, is smaller than the treater that 4th State used in 1997, requiring TransWeb to make adjustments to achieve the same degree of fluorination. (Opp. Br. at 10.)

⁴ The *Markman* Order construed the term “at least about” as “at least approximately.” (*Markman* Order, Nov. 16, 2011 (Docket No. 215).)

in the fluorination chamber; and 3) the amount of time the web is in the fluorination chamber.

(Moving Br. at 10 (citing Miller Decl. Ex. D at 59:18-60:8).)

2. Discussion

The standard for admissibility of recreated evidence in the Third Circuit is substantial similarity—that is, whether the conditions were substantially similar to the original event. *See, e.g., Stecyk v. Bell Helicopter Textron, Inc.*, 295 F.3d 408, 412 (3d Cir. 2002) (The proponent of recreated evidence must “make a foundational showing that the . . . test conditions were substantially similar to the conditions” during the litigated incident.); *Russo v. Mazda Motor Corp.*, No. 89–7995, 1992 WL 309630, at *2 (E.D. Pa. Oct. 19, 1992). “[S]ubstantial similarity does not require perfect identity between actual and experimental conditions.” *Stecyk*, 295 F.3d at 412. The recreation need only be based on reliable scientific methodology to be admissible. *Liquid Dynamics Corp. v. Vaughn Co.*, 449 F.3d 1209, 1221 (Fed. Cir. 2006).

In challenging the reliability and fit of Dr. Funk’s opinion, 3M relies primarily on *Texas Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1217 (Fed. Cir. 2002), in which the Federal Circuit held that, in general, “[c]orroboation is required of any witness whose testimony alone is asserted to invalidate a patent.” 3M contends that there is no corroboration of Mr. Ogale’s testimony concerning the 1997 fluorination conditions, and therefore to allow Dr. Funk to rely on the Prior Art recreations—created based on the Ogale testimony—in rendering his opinions as to invalidity is impermissible. *Cf. Duramed Pharm., Inc. v. Watson Lab., Inc.*, 701 F. Supp. 2d 1163, 1167 (D. Nev. 2010) (excluding testimony on invalidity for lack of corroboration), *rev’d on other grounds*, 413 F. App’x 289 (Fed. Cir. 2011).

Experts are entitled to “make assumptions of fact so long as such assumptions have a reasonable basis in the available record.” *Edison Wetland Ass’n, Inc. v. Akzo Nobel Chem., Inc.*,

No. 08-419, 2009 WL 5206280, at *4 (D.N.J. Dec. 22, 2009) (citing *Brill v. Marandola*, 540 F. Supp. 2d 563, 568 (E.D. Pa.2008)). Here, the record demonstrates Dr. Funk had a reasonable basis to rely on the recreations. The record also reveals corroboration of Mr. Ogale's recollection.

First, Mr. Ogale, who developed the 1997 fluorination process in conjunction with 4th State, established the fluorination conditions for the Prior Art recreations. (Opp. Br. at 15-16; Gannon Cert. Ex. 7.). In fact, while Mr. Ogale did not rely on the documents in fluorinating the Prior Art recreations, contemporaneous correspondence with 4th State demonstrates Mr. Ogale's role in developing the initial fluorination conditions and corroborates his recollection of the fluorination conditions that achieved the best result, which formed the basis of the process for recreating the prior art. (Gannon Cert. Exs.7, 23.)

Second, the TransWeb patent application filed on April 30, 1997,⁵ describes the optimal degree of fluorination: "Preferably, at least 25 mol% of the hydrogen atoms have been replaced with fluorine atoms, more preferably at least 50%." (Gannon Cert. Ex. 3 at TW0028105.) That application also provides a range of fluorination parameters,⁶ and indicates that those parameters may need to be adjusted to achieve the optimal degree of fluorination as determined by an oil-drop test. (*Id.* at TW0028104.) While 3M contends that "[t]here is no question that the specific

⁵ The Patent examiner rejected all of the proposed claims in the application and in an amended application, and TransWeb eventually abandoned its application. (Opp. Br. at 5-6.)

⁶ 3M contends that TransWeb's patent application "reveals that TransWeb claimed a wide variety of process conditions could be used to fluorinate the media." (Reply Br. at 6.) 3M's point is apparently that the lack of specificity in the patent application means that it cannot corroborate the Ogale testimony. However, nowhere does 3M demonstrate why differences in the fluorination process are relevant when they result in the *degree* of fluorination on the Prior Art recreations that was established by Ogale's testimony and the corroborating evidence. Indeed, 3M's patent does not claim any process for fluorination, or even precisely describe the amount of fluorination; 3M claims only "at least [approximately] 45 atomic percent fluorine." ('458 Patent, Miller Decl. Ex. F at Col. 2, lines 7-11.)

fluorination parameters employed by 4th State in 1997 directly affected the properties of the web being fluorinated,” (Moving Br. at 10), it is unclear how the fluorination parameters applied—as opposed to the degree of fluorination achieved—can be particularly important in this case. That is especially true given TransWeb’s demonstration that the parameters to achieve a degree of fluorination would be known to one skilled in the art. (Opp. Br. at 30-33.) Moreover, in this case, 3M contends TransWeb infringes a patent that does not claim a fluorination process or even a precise (as opposed to an “approximate”) degree of fluorination.⁷ That 3M did not specify the fluorination parameters in its patent bolsters TransWeb’s contention that one skilled in the art could devise the proper parameters to achieve a given degree of fluorination. (Opp. Br. at 30-32).

Finally, samples TransWeb provided to a third party confirm the degree of fluorination. TransWeb sent samples of its products to Racal sometime before 3M acquired that company in March 1998—very close to the time the 1997 material that allegedly constitutes prior art was created. (Opp. Br. at 9; Gannon Cert. Ex. 4 at 140:6-141:17.) 3M later analyzed those samples, and found that that the surfaces of the two sample webs contained 51% and 47% atomic fluorine on the surfaces, respectively (Gannon Cert. Ex. 14 at Ex. B)—nearly the same fluorination levels of the Prior Art recreations on which Dr. Funk relied, and independent confirmation of Mr. Ogale’s testimony that also accords with the patent application and the 4th State correspondence.

The facts in this case are distinguishable from *Texas Digital*. In that case, there was no corroboration of the date a product was made public (thereby qualifying it as prior art), and even

⁷ In its reply, 3M contends that the parameters are central to this case because if the process deposited less than 45% fluorine, the anticipation defense would fail “as a matter of law.” (Reply Br. at 8.) But “at least approximately”—the language of the patent as construed by the *Markman* Order—cannot mean “at least, definitively, as a matter of law,” as 3M would have it. 3M’s argument does not find support in the patent construction (*see Markman* Order dated Nov. 16, 2011 (Docket No. 215)) nor in the express terms of the patent, which claims “at least *about*” (‘458 Patent, Miller Decl. Ex. F at Col. 2, lines 7-11) (emphasis added).

the key witness was uncertain on that dispositive detail.⁸ 308 F.3d at 1218. Here, there is no indication that the fluorination *process*, as opposed to the degree of fluorination, is dispositive of any of the claims, and there is no evidence that Mr. Ogale has been “hopelessly uncertain” (Moving Br. at 11) about the degree of fluorination. Most importantly, Mr. Ogale’s testimony was corroborated by the 4th State documents and by the testing of the Racal samples. *Cf. Sandt Tech. v. Resco*, 264 F.3d 1344, 1350-51 (Fed. Cir. 2001) (“Documentary or physical evidence that is made contemporaneously with the inventive process provides the most reliable proof that the inventor’s testimony has been corroborated.”). The other cases on which 3M relies are similarly distinguishable. *See Duramed*, 701 F. Supp. 2d at 1167 (excluding testimony on invalidity where witness “has not corroborated his testimony with any documentation,” and “was unable to identify any of his myriad publications that might mention” the relevant purported prior invention); *Ormco Corp. v. Align Tech., Inc.*, No. 03-16, 2004 WL 5453218, at *5 (C.D. Cal. Aug. 20, 2004) (granting motion to strike witness testimony as to prior use where plaintiff “submit[ted] no documentary evidence to corroborate” the testimony).

3M also complains that Dr. Funk’s testimony should be excluded because he did not observe some of the recreation process, and because he was unaware of some of the data that corroborate Mr. Ogale’s recollections. But Dr. Funk was entitled to rely on Mr. Ogale’s representations about the material. *See Tormenia v. First Investors Realty Co.*, 251 F.3d 128, 135 (3d Cir. 2000); *see also Brill*, 540 F. Supp. 2d at 568 (Experts have “wide latitude in determining what data is needed to reach a conclusion.”). Moreover, while he did not observe the recreation process for one set of samples (the T-Melt 30 P products), he was present for the

⁸ The court in *Texas Digital* did reject a patent application as corroboration, as 3M argues, but the application there had only indirect bearing on the dispositive issue of when the prior art was publicly sold. *See Texas Digital*, 308 F.3d at 1218. Here, the issue is the fluorination conditions and degree of fluorination of the TransWeb purported prior art, and the patent application directly describes both. (Gannon Cert. Ex. 3 at TW0028104-05.)

recreation of another set of samples (the T-Melt 50 P products), where TransWeb used the same process. (Gannon Cert. Ex. 4 at 102:21-103:12, 104:7-105:15, 115:12-117:10, 123:20- 126:19.)

Therefore he observed the TransWeb process, and relied upon the reasonable factual assumption—sufficiently supported by the record—that the Prior Art recreations were substantially similar to TransWeb’s 1997 and 1998 products that it contends are prior art.

The arguments raised by 3M are well-suited to cross examination before a jury. Given that there is corroboration of the fluorination levels, *cf. Texas Digital*, 308 F.3d at 1219, that Mr. Ogale can testify to his recollection of the fluorination process applied in 1997, and that Dr. Funk can testify to the role of the fluorination process, the arguments raised by 3M can be addressed on cross-examination and left to the jury’s capability to form credibility determinations. *Cf. Stecyk*, 295 F.3d at 413 (“Any dissimilarities that [defendants] identified [between the recreation and the original] were properly the subject of cross-examination.”).⁹

B. Dr. Bradley N. Reiff

In support of TransWeb’s antitrust claims against 3M, Dr. Reiff identified two markets: 1) a downstream market for respirators meeting certain NIOSH standards for respirators used in oily environments (oil-resistant, or R-series, respirators and oil-proof, or P-series, respirators), and 2) an upstream market for the fluorinated polymeric web material used in those respirators.

TransWeb and 3M are the only producers of that material. (Miller Decl. Ex. A ¶ 25.)

⁹ TransWeb also contends that 3M’s argument fails because the delay at issue here is 3M’s fault. 3M failed to sue TransWeb for infringement for years after receiving the patent despite 3M’s undisputed awareness of the issues in this case. (*See* Gannon Cert. Ex. 14 (disclosing TransWeb products to USPTO).) 3M correctly responds that Mr. Ogale testified that TransWeb discarded its samples in 2000, more than two years before the patents-in-suit issued. (Miller Decl. Ex. A at 28:24-29:17.) Nonetheless, to the extent 3M argues the inadequacy of the corroboration of Mr. Ogale’s parameters, it may be that additional documentation would have been available ten years ago when the patents issued, and it is clear that any inferences on the issue should be drawn in TransWeb’s favor in light of 3M’s unexplained delay.

3M challenges the reliability and fit of Dr. Reiff's opinions as they relate to his product market definitions.^{10,11} 3M contends that Dr. Reiff's conclusions should not be admitted because he failed to provide econometric analysis¹² in support of his market definitions. Specifically, 3M argues that Dr. Reiff's failure to provide econometric analysis renders unreliable and unhelpful both of his market definitions: the upstream market because he fails to demonstrate why unfluorinated or non-polymeric media are not part of the same product market as the fluorinated polymeric web at issue in this suit, and the downstream market because his analysis fails to show that the classes of respirators in his definition are a distinct market and because 3M's patent claims do not cover all of the products in the defined market.

In defining the markets, Dr. Reiff relied on price and cost data, industry marketing materials, analyses of the products' unique characteristics and potential interchangeability, 3M's "voice of the customer" preference studies, 3M's sales strategies for the products, and other internal 3M documents. (Opp. Br. at 32-34.) Dr. Reiff then conducted "SSNIP" analysis to determine reasonable interchangeability—that is, to determine the boundaries of the antitrust market. The SSNIP method posits the smallest group of products for which a hypothetical monopolist could profitably make a "small but significant non-transitory increase in price," such

¹⁰ Although 3M's brief argued that Dr. Reiff's conclusions concerning future profits were unreliable because they rested on the improbable premise that TransWeb would be wrongfully enjoined from infringing the patents, 3M did not raise that argument at the hearing. In any event, the issue is apparently moot, as TransWeb has indicated its intention not to pursue antitrust damages based on lost future profits. (See Letter from TransWeb Counsel dated May 18, 2012, Docket No. 318.)

¹¹ 3M does not challenge Dr. Reiff's qualifications. Dr. Reiff received his Ph.D. in economics from MIT and has over 24 years of experience as an economist, including analysis of effects on competition of mergers and the enforcement of intellectual property rights. (Miller Decl. Ex. A ¶ 1.)

¹² Econometrics is "[t]he branch of economics that expresses economic theory in mathematical terms and that seeks to verify theory through statistical methods." Black's Law Dictionary 552 (8th ed. 2004).

that consumers would not substitute another product. *See Olin Corp. v. F.T.C.*, 986 F.2d 1295, 1299 (9th Cir. 1993).

Plaintiffs bear the burden of defining the relevant antitrust product market, *Queen City Pizza, Inc. v. Domino's Pizza, Inc.*, 124 F.3d 430, 436 (3d Cir. 1997), and “[t]he outer boundaries of [that] product market are determined by the reasonable interchangeability of use or the cross-elasticity of demand between the product and substitutes for it.” *Brown Shoe Co. v. U.S.*, 370 U.S. 294, 325 (1962); *see also Queen City Pizza*, 124 F.3d at 436. Extrapolating from the holding in *Brown Shoe*, 3M contends that TransWeb *must* present econometric analysis of cross-elasticity of demand. The case law does not compel that conclusion, however, and many courts have approved on reliance on a combination of practical indicia with SSNIP analysis. *See, e.g., Fineman v. Armstrong World Indus., Inc.*, 980 F.2d 171, 199 (3d Cir. 1992); *Olin*, 986 F.2d at 1299; *U.S. v. Calmar*, 612 F. Supp. 1298, 1303-05 (D.N.J. 1985).¹³ The practical indicia in this case are particularly compelling because many of them—such as the “voice of the consumer” surveys—derived from 3M’s own analysis of the markets for respirators and filtration media.

3M relies primarily on *U.S. Horticultural Supply v. Scotts Co.*, No. 04-5182, 2009 WL 89692 (E.D. Pa. Jan. 13, 2009), *aff’d*, 367 F. App’x 305 (3d Cir. 2010). In that case, the court granted summary judgment because the plaintiff’s antitrust expert report “relie[d] entirely on the

¹³ 3M contends that these cases are inapposite. However, each supports TransWeb’s market definitions. For instance, in *Fineman*, the court upheld a district court ruling that certain types of floor coverings were distinct based on distributors’ actions with regard to pricing and selling the floor coverings. *Fineman*, 980 F.2d at 199. Similarly, Dr. Reiff’s analysis depends in part on how 3M has differentiated fluorinated and non-fluorinated filtration material in its marketing, in customer surveys, and in its dealings with TransWeb. (*See* Palmer Cert. Exs. M, N, and O.) In *Calmar*, the Court rejected the government’s definition based on statements from only seven customers, but it did credit a survey conducted by the defense expert, 612 F. Supp. at 1304; here, the scope of the customer surveys are unclear, but 3M apparently based its production and marketing on them, and they are bolstered by the additional indicia. Finally, in *Olin*, as here, the product definition was based on the producer’s own data. 986 F.2d at 1303. It is not clear, and 3M does not explain, why it would matter that in that case, the internal data showed price similarity, *id.*, whereas here the data support differentiation (*see, e.g.,* Palmer Cert. Exs. M, N).

author's economic assumptions and record evidence that itself fail[ed] to provide an analysis of interchangeability.” *Id.* at *19. In fact, in that case, the “evidence [did] not make reference to the rule of reasonable interchangeability and cross-elasticity of demand and [was], therefore, legally insufficient,” and “fail[ed] to provide any economic analysis of . . . substitute [products].” 367 F. App’x at 310-11. As described below, that is not the situation here. Instead, Dr. Reiff’s opinion was an acceptable economic analysis of interchangeability and cross-elasticity of demand. *Kentucky Speedway, LLC v. Nat’l Ass’n of Stock Car Auto Racing, Inc.*, 588 F.3d 908 (6th Cir. 2009), relied on by 3M, does not alter the result. In that case, the expert had conducted his “own version” of SSNIP which failed to meet the reliability requirements of Rule 702 and *Daubert*: it was untested, had not been reviewed, was not controlled by standards, and there was no indication it was generally accepted in the scientific community. *Id.* at 918. Here, Dr. Reiff has conducted the standard SSNIP analysis approved in numerous other cases. *See, e.g., Fineman*, 980 F.2d at 199; *Olin*, 986 F.2d at 1299; *Calmar*, 612 F. Supp. at 1303-05.

1. The Upstream Market in Filter Media

3M also objects to Dr. Reiff’s definition of the upstream market on the grounds that Dr. Reiff fails to support his contention that manufacturers would not switch from fluorinated to unfluorinated media and, more generally, because Dr. Reiff failed initially to distinguish among the various types of relevant respirator filter media. Specifically, 3M contends that Dr. Reiff was incorrect to define the relevant market as being limited to fluorinated filtration polymeric media, as opposed to all fluorinated filtration media, and that his alleged error arose from the fact that he was unaware of—and therefore failed to consider as a possible alternative—fluorinated non-polymeric media.

There are four types of filter media for respirators: fluorinated polymeric, fluorinated non-polymeric, unfluorinated polymeric, and unfluorinated non-polymeric. TransWeb uses the polymer polypropylene in its filter material, and the patents at issue here claim polymers. (*See* Miller Decl. Exs. 7, 8.) However, respirator filters can also be made with fiberglass, which is a non-polymeric material. (Moving Br. at 3 (citing Miller Decl. Ex. C ¶¶ 51-55).)

It is undisputed that there are only two manufacturers of fluorinated polymeric filter material, which is the type of filter media at issue here: 3M and TransWeb. (Miller Decl. Ex. A ¶ 25.) At issue in the antitrust claims is whether to classify the fluorinated polymeric filter market as distinct from the other markets for respirator filter material. Dr. Reiff concluded that fluorinated polymeric filter material is a unique filtration material and therefore constitutes its own market.

Dr. Reiff's conclusion that fluorinated polymeric material is its own market is based on the following premises: 1) respirators with lower pressure drop are desirable because they are easier to breathe through and more durable; 2) electrostatically charged filter media are highly effective and have low pressure drop; 3) fluorinate is receptive to electrostatic charges and can preserve them in oily environments; 4) fiberglass not be electrostatically charged; 5) fluorinated polymeric web is well-suited for oily environments because it can be charged and performs well; 6) no other filtration material has the performance characteristics of fluorinated polymeric material; and 7) fluorinated polymeric web respirators are distinctly priced from respirators that employ other filtration material. (Miller Decl., Ex. A ¶¶ 12-13, 34-35.) Those premises are supported by the record, and 3M does not appear to challenge them. Instead, 3M contends that Dr. Reiff fails to demonstrate that purchasers of filter material would not switch out of fluorinated polymeric material if a price increase occurred. 3M notes that Dr. Reiff initially did

not distinguish between fluorinated and unfluorinated non-polymer (*i.e.*, fiberglass). (Moving Br. at 3.) However, his deposition makes clear that he concluded that adding fluorine to fiberglass does not create a product that is an adequate substitute such that fluorinated non-polymeric media should be considered part of the same market. Among other things, Dr. Reiff based his conclusion on the facts that fluorinated fiberglass had a significantly higher pressure drop (*i.e.*, it is harder to breathe through) and that fiberglass filters are predominantly used in specialty cartridges that are distinct from the applications for the TransWeb material. (Palmer Cert. Ex. A. at 28:12-30:2.)

Dr. Reiff performed a SSNIP analysis of this market¹⁴ and determined that a respirator manufacturer would be unlikely to switch to other filtration media, and therefore they were not reasonably interchangeable, bolstering his definition of the outer bounds of the market.

2. The Downstream Market in Respirators

3M contends that Dr. Reiff's methods in determining the market in R- and P-series respirators were flawed because he did not perform econometric analysis. As explained above, that argument has no basis in the case law. *See, e.g., Fineman*, 980 F.2d at 199; *Olin*, 986 F.2d at 1299; *Calmar*, 612 F. Supp. at 1303-05. 3M also contends that Dr. Reiff's definition of the

¹⁴ 3M contends that Dr. Reiff's assumptions concerning the cost of the filtration media as a percentage of the costs of respirators is unfounded. However, his report makes clear that his assumption was based on the maximum cost to 3M to manufacture the relevant respirators. (Miller Decl. Ex. A ¶¶ 25, 26 n.38.) Indeed, Dr. Reiff made the conservative assumption for the purposes of his analysis that the entirety of the manufacturing cost was the filtration media. (Miller Decl. Ex. A ¶ 26 n.38.) In other words, Dr. Reiff did not articulate a "per se rule that if the cost of a component represents one quarter or less of the sales price of a finished product, the manufacturer of the finished product will not care if the component manufacturer is charging inflated monopoly rates." (3M Br. at 10.) Instead, he used 3M's data to develop relatively *conservative* assumptions about the effect a monopolist would have on the price of filter media purchased by respirator manufactures. He explained that his conclusion as to that effect—that purchasers would not substitute non-fluorinated material to defeat the SSNIP—was based in part on the relatively low increase in price in respirators that could result. (Miller Decl. Ex. A ¶ 26 n.38.)

market failed to consider that 3M's patent claims do not cover all of the products in that market, and that TransWeb's customers sell numerous respirators that do not include the TransWeb material that allegedly infringes 3M's patents. However, Dr. Reiff did not in fact assume that TransWeb's customers only make respirators using TransWeb's filter material. His report explicitly states that he considered respirators manufactured by companies that did not use 3M or TransWeb products. (*See* Miller Decl. Ex. A ¶¶ 50-51.) His deposition testimony further makes clear that he used TransWeb and 3M data to extrapolate the entire market for the R- and P-series respirators (*See* Palmer Cert., Ex. A at 89:10-90:21). He concluded that the market in R- and P-series is distinct based on the characteristics of those respirators, and especially regulatory requirements that employers provide R- or P-series respirators (and not other kinds of respirators) to workers in certain oily, contaminated conditions. (Miller Decl. Ex. A ¶¶ 28-29.)

In short, 3M's criticisms fail to demonstrate that Dr. Reiff's analysis was unreliable or unhelpful to the trier of fact. To the extent 3M's experts and counsel can demonstrate weaknesses in Dr. Reiff's work, because he did not use econometrics or the assumptions 3M contends these facts require, 3M may do so at trial by presenting alternative perspectives and through cross-examination. *Cf. Stecyk*, 295 F.3d at 414 ("Rule 705, together with Rule 703, places the burden of exploring the facts and assumptions underlying the testimony of an expert witness on opposing counsel during cross-examination.").

IV. CONCLUSION

For the reasons set forth above, the Court will deny the motions to exclude the testimony of Dr. Funk and Dr. Reiff. An appropriate order will issue.

/s/ Faith S. Hochberg
Hon. Faith S. Hochberg, U.S.D.J.